

CLAIMS

What is claimed is:

5 1. An inkjet ink having improved print quality across different types of print media, comprising:

 a first pigment dispersion and a second pigment dispersion, wherein pigments in the first pigment dispersion and in the second pigment dispersion are formulated to segregate when deposited on a glossy print medium; and
 an ink vehicle.

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 2. The inkjet ink of claim 1, wherein each of the pigments in the first pigment dispersion and in the second pigment dispersion has at least one of a dissimilar particle size, a dissimilar particle morphology, and a dissimilar manner of dispersion.

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 3. The inkjet ink of claim 1, wherein each of the pigments in the first pigment dispersion and in the second pigment dispersion is selected from the group consisting of carbon black, an organic pigment, a white inorganic pigment, a colored inorganic pigment, and mixtures thereof.

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 4. The inkjet ink of claim 1, wherein each of the pigments in the first pigment dispersion and in the second pigment dispersion is selected from the group consisting of self-dispersed pigments and polymer-attached pigments.

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 5. The inkjet ink of claim 1, wherein the pigment in the first pigment dispersion is dispersed with a polyacrylate and the pigment in the second pigment dispersion is dispersed with a sulfonate.

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 6. The inkjet ink of claim 1, wherein the pigment in the first pigment dispersion and the pigment in the second pigment dispersion have a particle size ranging from approximately 1 nm to approximately 300 nm and wherein a ratio of a particle size of the pigment in the first pigment dispersion to the

particle size of the pigment in the second pigment dispersion is greater than approximately 3:1.

5 7. The inkjet ink of claim 1, wherein the first pigment is carbon black and has a particle size of 150 nm and the second pigment is carbon black and has a particle size of 30 nm.

10 8. The inkjet ink of claim 1, wherein the pigment in the first pigment dispersion has a high structure and the pigment in the second pigment dispersion has a low structure.

15 9. The inkjet ink of claim 1, wherein the first pigment dispersion and the second pigment dispersion are present at a ratio ranging from approximately 1:1 to approximately 9:1.

20 10. An inkjet ink having improved print quality on a plain paper with multiple domains, comprising:
 a first pigment dispersion and a second pigment dispersion, wherein the first pigment dispersion is formulated to interact with a first domain of the plain paper and the second pigment dispersion is formulated to interact with a second domain of the plain paper; and
 an ink vehicle.

25 11. The inkjet ink of claim 10, wherein each of the pigments in the first pigment dispersion and in the second pigment dispersion are dispersed in a dissimilar manner.

30 12. The inkjet ink of claim 10, wherein each of the pigments in the first pigment dispersion and in the second pigment dispersion is selected from the group consisting of carbon black, an organic pigment, a white inorganic pigment, a colored inorganic pigment, and mixtures thereof.

13. The inkjet of claim 10, wherein each of the first pigment dispersion and the second pigment dispersion are formulated to interact with a domain selected from the group consisting of cellulose domains, domains of sizing agents, and domains of calcium carbonate.

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14. The inkjet ink of claim 10, wherein the first domain is a cellulose domain and the second domain is a calcium carbonate domain.

15. The inkjet ink of claim 10, wherein the pigments in the first pigment dispersion and in the second pigment dispersion comprise polymer-attached pigments.

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16. The inkjet ink of claim 10, wherein the pigment in the first pigment dispersion is modified with saccharides, amides, and polymers thereof.

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17. The inkjet ink of claim 10, wherein the first pigment dispersion comprises anionically modified polyethyleneimine or pentaethylenehexamine.

18. The inkjet ink of claim 10, wherein the second pigment dispersion comprises a polyacrylate attached to the pigment.

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19. The inkjet ink of claim 10, wherein the first pigment dispersion and the second pigment dispersion are present at a ratio ranging from approximately 1:4 to approximately 4:1.

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20. A method of providing improved print quality across different types of print media, comprising:

applying an inkjet ink comprising a first pigment dispersion and a second pigment dispersion to a print medium, wherein pigments in the first pigment dispersion and in the second pigment dispersion are formulated to segregate when deposited on a glossy print medium.

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21. The method of claim 20, wherein applying an inkjet ink comprising a first pigment dispersion and a second pigment dispersion to a print medium comprises applying the inkjet ink wherein each of the pigments in the first pigment dispersion and in the second pigment dispersion has at least one of a
5 dissimilar particle size, a dissimilar particle morphology, and a dissimilar manner of dispersion

22. The method of claim 20, wherein applying an inkjet ink comprising a first pigment dispersion and a second pigment dispersion to a print medium
10 comprises applying the inkjet ink wherein each of the pigments in the first pigment dispersion and in the second pigment dispersion is selected from the group consisting of self-dispersed pigments and polymer-attached pigments.

23. The method of claim 20, wherein applying an inkjet ink comprising
15 a first pigment dispersion and a second pigment dispersion to a print medium comprises applying the inkjet ink wherein the pigment in the first pigment dispersion is dispersed with a polyacrylate and the pigment in the second pigment dispersion is dispersed with a sulfonate.

20 24. The method of claim 20, wherein applying an inkjet ink comprising a first pigment dispersion and a second pigment dispersion to a print medium comprises applying the inkjet ink wherein the pigment in the first pigment dispersion and the pigment in the second pigment dispersion have a particle size ranging from approximately 1 nm to approximately 300 nm and wherein a
25 ratio of a particle size of the pigment in the first pigment dispersion to the particle size of the pigment in the second pigment dispersion is greater than approximately 3:1.

25. The method of claim 20, wherein applying an inkjet ink comprising
30 a first pigment dispersion and a second pigment dispersion to a print medium comprises applying the inkjet ink wherein the first pigment is carbon black and

has a particle size of 150 nm and the second pigment is carbon black and has a particle size of 30 nm.

26. The method of claim 20, wherein applying an inkjet ink comprising
5 a first pigment dispersion and a second pigment dispersion to a print medium comprises applying the inkjet ink wherein the pigment in the first pigment dispersion has a high structure and the pigment in the second pigment dispersion has a low structure.

10 27. The method of claim 20, wherein applying an inkjet ink comprising a first pigment dispersion and a second pigment dispersion to a print medium comprises applying the inkjet ink wherein the first pigment dispersion and the second pigment dispersion are present at a ratio ranging from approximately 1:1 to approximately 9:1.

15 28. A method of providing improved print quality on a plain paper with multiple domains, comprising:
applying an inkjet ink comprising a first pigment dispersion and a second pigment dispersion to a print medium, wherein the first pigment dispersion is
20 formulated to interact with a first domain of the plain paper and the second pigment dispersion is formulated to interact with a second domain of the plain paper.

25 29. The method of claim 28, wherein applying an inkjet ink comprising a first pigment dispersion and a second pigment dispersion to a print medium comprises applying the inkjet ink wherein each of the pigments in the first pigment dispersion and in the second pigment dispersion are dispersed in a dissimilar manner.

30 30. The method of claim 28, wherein applying an inkjet ink comprising a first pigment dispersion and a second pigment dispersion to a print medium comprises applying the inkjet ink wherein each of the pigments in the first

pigment dispersion and in the second pigment dispersion comprise a polymer-attached pigment.

31. The method of claim 28, wherein applying an inkjet ink comprising
5 a first pigment dispersion and a second pigment dispersion to a print medium
comprises applying the inkjet ink wherein the first pigment dispersion and the
second pigment dispersion are each formulated to interact with domains
selected from the group consisting of cellulose domains, domains of sizing
agents, and domains of calcium carbonate.

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32. The method of claim 28, wherein applying an inkjet ink comprising
a first pigment dispersion and a second pigment dispersion to a print medium
comprises applying the inkjet ink wherein the pigment in the first pigment
dispersion is modified with saccharides, amides, and polymers thereof.

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33. The method of claim 28, wherein applying an inkjet ink comprising
a first pigment dispersion and a second pigment dispersion to a print medium
comprises applying the inkjet ink wherein the first pigment dispersion comprises
anionically modified polyethyleneimine or pentaethylenehexamine attached to
20 the pigment.

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34. The method of claim 28, wherein applying an inkjet ink comprising
a first pigment dispersion and a second pigment dispersion to a print medium
comprises applying the inkjet ink wherein the second pigment dispersion
25 comprises a polyacrylate attached to the pigment.

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35. The method of claim 28, wherein applying an inkjet ink comprising
a first pigment dispersion and a second pigment dispersion to a print medium
comprises applying the inkjet ink wherein the first pigment dispersion and the
30 second pigment dispersion are present at a ratio ranging from approximately 1:4
to approximately 4:1.

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